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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,886	09/09/2003	Mark K. Hennig	HO-P02832US0	2621
26271	7590	06/14/2004	EXAMINER	
FULBRIGHT & JAWORSKI, LLP 1301 MCKINNEY SUITE 5100 HOUSTON, TX 77010-3095			JULES, FRANTZ F	
			ART UNIT	PAPER NUMBER
			3617	

DATE MAILED: 06/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/657,886

Applicant(s)

HENNIG ET AL.

Examiner

Frantz F. Jules

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04142004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 7-9 and 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 10-12 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Fig. 6, claims 1-6, 11-12 in Paper No. 04/14/2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 7-10, 13-15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 04/14/2004.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "38" has been used to designate both closed valves and pressure barriers. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "38" has been used to designate both closed valves and fusible plugs. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "40" has been used to designate both closed valves and

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pressure barriers. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "40" has been used to designate both closed valves and fusible plugs. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kostroun et al (US 3,645,479) in view of Ploeger (US 4,058,185).

Claims 1-5

Kostroun et al disclose a tire monitoring system having a high temperature warning system comprising, an air pressure supply, a normally closed valve (40) connected between the inside and outside of said pressure supply, a heat sensitive control (58) as disclosed in the abstract connected to and actuating said valve upon a predetermined temperature, said control mounted adjacent to said wheel end assembly for measuring

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the temperature of the assembly, and a warning system connected to the pressure supply for actuation upon opening of the valve, see col 2-3.

The heat sensitive control (58) includes a heat sensitive pressure barrier and being a fusible plug.

Kostroun et al teach all of the features as listed above but does not disclose a system for monitoring the temperature of a wheel end assembly with a plug at the end. The general concept of providing a system for monitoring the temperature of a wheel end assembly with a plug at the end is well known in the art as illustrated by Ploeger which discloses the teaching of a system for monitoring the temperature of a wheel end assembly with a plug (8) at the end, see abstract section. It would have been obvious to one of ordinary skill in the art at the time of the invention to monitor Kostroun et al to incorporate the use of the system for monitoring the temperature of tire including a plug at the end in wheel end assembly of his advantageous tire monitoring system as taught by Ploeger in order to prevent overheating of the bearing of the wheel end assembly thereby reducing the risk of bearing failure.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kostroun et al (US 3,645,479) and Ploeger (US 4,058,185) as applied to claim 1 above, and further in view of Ingram (US 6,105,645).

Claim 10

Kostroun et al and Ploeger teach all the limitations of claim 10 except for a wheel end assembly comprising an automatic tire inflation system. The general concept of providing a tire inflation system to a wheel end assembly is well known in the art as

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illustrated by Ingram which discloses the teaching of an automatic tire inflation system to a wheel end assembly, see abstract section. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kostroun et al to incorporate an automatic tire inflation system in his advantageous wheel end assembly as taught by Ingram in order to maintain desired pressure in the tire of the vehicle which will improve the load carrying capability of the tire while reducing risk of a flat.

10. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naedler (US 6,401,743) in view of Kostroun et al (US 3,645,479).

Claims 11-12

Naedler discloses a vehicle having an automatic tire inflation system for providing air to a rotating tire on a wheel hub mounted on bearings on a hollow axle connected to an air pressure supply for supplying air to the inside of the axle, a rotary connection in communication between the tire and air inside of the axle, the combination of a high temperature warning system comprising, a normally closed valve connected between the inside and the outside of the axle in connection with the air in the axle.

Naedler discloses all of the features as listed above but does not disclose a temperature measuring device comprising a heat sensitive control connected to and actuating the valve open upon a predetermined temperature, in addition to a warning system connected to the air supply for actuation upon opening of the valve. The general concept of providing a temperature measuring device comprising a heat sensitive control in addition to a warning device in a vehicle tire system is well known in the art as

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illustrated by Kostroun et al which disclose the teaching of "a temperature measuring device comprising a heat sensitive control (58) connected to and actuating the valve (40) open upon a predetermined temperature, in addition to a warning system connected to the air supply for actuation upon opening of the valve", see abstract section. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Naedler to incorporate "a temperature measuring device comprising a heat sensitive control connected to and actuating the valve open upon a predetermined temperature, in addition to a warning system connected to the air supply for actuation upon opening of the valve" in his advantageous vehicle as taught by Kostroun et al in order to prevent overheating of the bearing of the wheel end assembly of the vehicle thereby reducing the risk of bearing failure.

Allowable Subject Matter

11. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the references of record suggests a wheel end assembly wherein a heat sensitive pressure barrier is positioned in each plug positioned at the end of the axle in the manner defined in the instant claim 6 and in combination with other limitations of the claim.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

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Haven et al and Hayashi are cited to show related wheel having low pressure warning system.

Jaksic, Mittal, and Olney et al are cited to show related tire inflation system comprising a control valve for regulating the tire pressure.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frantz F. Jules whose telephone number is (703) 308-8780. The examiner can normally be reached on Monday-Thursday and every other Friday.

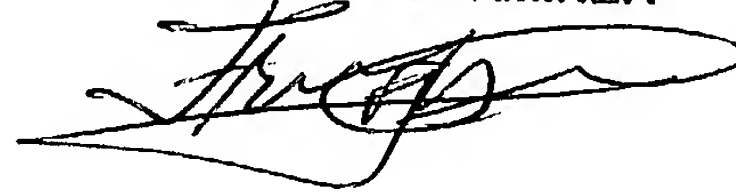
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph S. Morano can be reached on (703) 308-0230. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frantz F. Jules
Primary Examiner
Art Unit 3617

FFJ

FRANTZ F. JULES
PRIMARY EXAMINER



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June 1, 2004